

## 7. ABSTRACT

A loyalty program using a smart card enables realtime customer information analysis at a shop. Customer services are improved by conveniently and realtime providing results of analyzing each customer's usage status and tendency. A smart card application program analyzes customer information. Since the smart card has just a limited capacity and calculation capability, the card is incapable of complicated calculation and storing a large amount of log data. To solve this problem, a recurrence formula is used for calculating a value representing the customer's buying habit. There is provided a plurality of parameters needed for the calculation in order to enable determination of loyal customers according to different evaluation criteria such as a score based on the most recent purchase amount or the continuity. In addition, a shop card is used for point management to more economically enable customer information analysis at shops.